

In the previous rejection and in this Office Action, the Examiner alleges that Jinno teaches irradiating the amorphous semiconductor film with an ultraviolet light to crystallize the amorphous semiconductor film into a crystalline semiconductor film and to form an oxide film at a same time.

In its prior response, Applicants stated that they could not find any disclosure or suggestion in Jinno that an oxide film is formed at a same time as the irradiation of the amorphous semiconductor film, as recited in the claimed invention.

In response in the current Office Action, the Examiner contends that Jinno inherently teaches the formation of a SiO₂ film on the polysilicon film as subjecting the amorphous semiconductor film to the irradiation for crystallization purpose. The Examiner then agrees that Jinno does not expressly teach that the formation is at the same time as the irradiation. The Examiner, however, argues that it “an inherent consequence of the process, since both Jinno and the instant invention utilize the same process (i.e. ultraviolet light irradiation) to treat the same material (i.e. amorphous silicon).

Applicants disagree. The rejected claims require that the oxide film is simultaneously formed with the irradiation. This feature is supported, for example, by Embodiment 7 of the present application (p. 31 et seq.). More specifically, as stated on page 31, lns. 19 et seq., the oxide film is formed at the same time as the formation of a crystalline semiconductor film since the irradiation is performed in an oxygen or oxidizing atmosphere.

In contrast, Jinno does not teach or suggest the use of oxygen or an oxidizing atmosphere during irradiation (and does not appear to even mention oxygen or oxidizing). Jinno appears to be silent as to the atmosphere during irradiation.

Accordingly, Jinno does not disclose or suggest this feature of the claimed invention.

The Examiner also alleges in the prior action and in this action that Jinno teaches providing an impurity element into second portions of the crystalline semiconductor film at a first concentration through the oxide film using the first mask. Based on the Examiner's comments on page 7 of the Office Action, it is believed that the Examiner has mis-interpreted this element.

This feature is based on, for example, Fig. 1E of the present application and the associated description thereof. As can be seen from this figure, "through the oxide film" means that the impurity passes through the oxide film in the claimed invention.

In contrast, in Fig. 2D (Figs. 2A-2G are cited by the Examiner) of Jinno, the impurity appears to be directly introduced into the polysilicon film without passing through the oxide film. Instead, the oxide film appears to be functioning as a mask. Even if arguably Jinno shows introducing an impurity element into second portions of the crystalline semiconductor film (which Applicants do not admit), it does not disclose or suggest a first mask.

Hence, Jinno also fails to disclose or suggest this claimed feature.

Accordingly, for at least the above-stated reasons, the rejected claims are not anticipated but rather are patentable over the cited reference. Accordingly, it is respectfully requested that this rejection now be withdrawn.

II. Claim Rejections 35 USC §103

A. Rejection of Claim 48

The Examiner also rejects Claim 48 under 35 USC §103 (a) as being unpatentable over Jinno et al. in view of Makita et al. '044. This rejection is also respectfully traversed.

For at least the above-stated reasons for the independent claims, dependent Claim 48 is not disclosed or suggested by Jinno. Accordingly, it is requested that this rejection now be withdrawn.

B. Rejection of Claims 50 and 58

The Examiner also rejects dependent Claims 50 and 58 under 35 USC §103(a) as being unpatentable over Jinno et al. in view of Kim et al. This rejection is also respectfully traversed.

For at least the reasons discussed above for the independent claims, these dependent claims are also patentable over the cited references. Accordingly, it is requested that this rejection now be withdrawn.

C. Rejection of Claims 61, 62, 64-69, 71-76, 78 and 79

The Examiner also rejects Claims 61, 62, 64-69, 71-76, 78 and 79 under 35 USC §103(a) as being unpatentable over Jinno et al. in view of Makita et al. '860. This rejection is also respectfully traversed.

For at least the above-stated reasons, these claims are not disclosed or suggested by Jinno. Accordingly, it is requested that this rejection now be withdrawn.

D. Rejection of Claims 63, 70 and 77

The Examiner also rejects Claims 63, 70 and 77 under 35 USC §103(a) as being unpatentable over Jinno et al. in view of Makita '860 and further in view of Kim et al. This rejection is also respectfully traversed.